

polymer is less than 1.6:1.

26(New). The reduced energy binder of claim 25 wherein the polyester polymer is cured using an amount of a polyisocyanate.

27(New). An improved reduced energy binder for energetic compositions comprising an amount of cured poly(tetramethylene adipate) polyester polyol polymer having a molecular weight ( $MW_n$ ) of at least 6,000 in combination with an amount of one or more energetic plasticizers and wherein the ratio of plasticizer to polymer is less than 1.6:1.

28(New). The reduced energy binder of claim 27 wherein the polyester polymer is cured using an amount of a polyisocyanate.

29(New). The reduced energy binder of claim 27 further comprising an amount of inert plasticizer.

30(New). The reduced energy binder of claim 29 wherein the inert plasticizer is triacetin.

31(New). The reduced energy binder of claim 27 wherein the energetic plasticizers are selected from nitrate esters of the group consisting of n-butyl-2-nitratoethyl nitramine; trimethylolethane trinitrate; triethyleneglycol dinitrate; butanetriol trinitrate; nitroglycerin and mixtures thereof.

32(New). The reduced energy binder of claim 29 wherein the energetic plasticizers are selected from nitrate esters of the group consisting of n-butyl-2-nitratoethyl nitramine; trimethylolethane trinitrate; triethyleneglycol dinitrate; butanetriol trinitrate; nitroglycerin and mixtures thereof.

33(New). The reduced energy binder of claim 27 wherein the

plasticizer is selected from nitroglycerin, n-butyl-2-nitratoethyl nitramine and trimethylolethane trinitrate.

34(New). The reduced energy binder of claim 29 wherein the plasticizer is selected from nitroglycerin, n-butyl-2-nitratoethyl nitramine and trimethylolethane trinitrate.

35(New). An improved high solids propellant composition comprising by weight:

- (a) about 11% poly(tetramethylene adipate)  $MW_n$  6,000 binder polymer;
- (b) about 12% plasticizer selected from the group consisting of nitroglycerin and trimethylolethane trinitrate;
- (c) about 22% aluminum; and
- (d) about 53% ammonium perchlorate.

36(New). The propellant composition of claim 34 wherein the plasticizer is trimethylolethane trinitrate.

37(New). An improved high solid propellant composition comprising by weight:

- (a) about 11.3% cured poly(tetramethylene adipate)  $MW_n$  6,200 binder polymer;
- (b) about 12.2% nitroglycerin plasticizer;
- (c) about 22% (30 $\mu$ ) aluminum; and
- (d) about 53% (200 $\mu$ ) ammonium perchlorate oxidizer.

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Kindly amend the following claims:

In claim 9, line 1, delete "2" and insert --25--.

In claim 10, line 1, delete "5" and insert --13--.

In claim 13, line 1, delete "1" and insert --25--.

Rewrite claim 15 as follows;

15(Amended). An improved propellant composition comprising a fuel, reduced energy binder, an oxidizer and that includes a cured high molecular weight polyester polyol binder polymer including poly(tetramethylene adipate) having a molecular weight ( $MW_n$ ) above 4000 and an energetic plasticizer wherein the plasticizer to polymer ratio is less than about 1.6:1.

In claim 17, line 2, after "weight", insert --( $MW_n$ )-- and delete "about" and insert --at least--.

In claim 22, line 1, delete "20" and insert --37--.

In claim 23, line 3, after "10%", insert --cured-- and delete "(MW) 6,000" and insert --( $MW_n \geq 6,000$ )--.

In claim 24, line 3, after "7%", insert --cured-- and delete "(MW) 6,000" and insert --( $MW_n \geq 6,000$ )--.

#### REMARKS

In accordance with the above amendments, claims 1-8, 20-21 have been canceled without prejudice and new claims 25-37 have been added. Thus, claim 9-19 and 22-37 remain under consideration in this application and no claim has been allowed.

It is believed that the present claims overcome all of the rejections in the Office Action based on 35 U.S.C. Section 112 including those directed to former claims 20 and 21 with respect to the replacement of the nitroglycerin fraction. Each of the claims is now recited as being a cured composition some of which may be cured using a particular type of curing agent.